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A BOTANICAL JOURNAL.

'Ως ἐμεγαλύνθη τὰ ἔργα σου, Κύριε!—*πάντα ἐν σοφίᾳ ἐποίησας.*
ΨΑΛΜ. *ργ΄*. 24.

Benedicite universa germinantia in terra Domino; laudate et superexaltate Eum in secula.—*Hymn. iii Puer. v.* 76.

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☞ Notice.—Mr. G. S. Gibson's 'FLORA OF THE COUNTY OF ESSEX' is just ready.

☞ Notice.—The new 'GENERA PLANTARUM,' by Mr. George Bentham and Dr. Joseph D. Hooker, Part the First, is nearly ready.

☞ Notice.—Part the XIVth of Sir W. J. Hooker's 'SPECIES FILICUM,' being the Second Part of the Fourth Volume, is just ready.

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W. PAMPLIN, BOTANICAL AGENT, 45, FRITH ST., SOHO, LONDON.

[*July*, 1862.]

CHAPTERS ON FUNGI.

By **Archibald Jerdon.**

CHAPTER VIII.

The second great division of the Class Fungi is, as we formerly saw, that of Sporidiiferi, in which the reproductive bodies, denominated *sporidia*, are enclosed in sacs or cases. These sacs, or *asci*, as they are termed, are generally of an elongated form, and contain a definite number of sporidia, eight being the usual or typical number, and they are frequently accompanied by threads, called *paraphyses*, which are abortive asci, and which are often jointed or septate. The number of sporidia is however sometimes indefinite.

The external forms of the Fungi of this division are very various. Their size is, in general, small, but they are in many cases important agents in the scheme of nature, in hastening the decay and destruction of dead substances. Some of the higher forms are subterraneous in their habits and very curious in their structure.

Order V. Physomycetes.

This is a small and curious order, intermediate between Hyphomycetes and Ascomycetes, and possessing the enclosed sporidia of the latter combined with the free fertile threads, or flocci, of the former. It is distinguished by the bladder-shaped fertile cells being scattered on the threads, which are not compacted into an hymenium. The number of sporidia is indefinite.

The plants of this order are commonly classed under the general name of *Moulds*, along with those of the previous order (Hyphomycetes), and are generally met with on decaying substances of various kinds.

Suborder 1. Mucorini.

Threads free, bearing terminal or lateral asci (or *sporangia*).

The genus Mucor is the type of the group.

Mucor.

Sporidia discrete, contained within a rounded membranaceous dehiscent sporangium, bursting forth when immersed in water.

Mucor Mucedo, L. *Common Mould.* Byssoid, flocci simple,

BRITISH MUSEUM

sporangia and sporidia globose, at length blackish. On fruit, paste, preserves, etc. Very common.

From a white floccose stratum arises a forest of little pellucid stalks, each bearing a roundish vesicle, which at length becomes blackish from the contained ripe sporidia. This Fungus forms a beautiful object for the microscope.

Order VI. ASCOMYCETES.

This is a very large and important Order, and comprehends a vast multitude of genera and species, the external appearance of which differs widely, though all agree in a common structure of fruit; the essential character of the division being the development of a definite (or in some few cases of an indefinite) number of sporidia, within certain cells of the hymenium, which are generally of an elongated form, and accompanied by paraphyses.

Among the Fungi of this division are the Morell and the Truffle, both well-known edibles and much esteemed.

Suborder 1. ELVELLACEI.

Substance carnose, waxy or tremelloid, cup-shaped or clavate; hymenium generally open.

This is a large group, and is characterized by a fleshy or soft texture, and by the exposed surface of the hymenium, or fructifying part. It contains many interesting Fungi; and many species of the extensive genus Peziza are extremely beautiful.

I shall notice the genera Morchella and Peziza.

MORCHELLA.

Receptacle pileate; hymenium costate, lacunose.

MORCHELLA ESCULENTA, L. *Common Morell.* Pileus conical, ovate or globose, its base adnate with the stem; ribs firm, anastomosing into distinct cells.—*Grev. Sc. Crypt. Fl. t.* 68.

Woods, orchards, cinder walks, etc. Spring and early summer.

Pileus two to three inches high, yellowish, olivaceous, or cinereous; the ribs sometimes tinged with white or red. Stem hollow, whitish, one to three inches high.

Generally of a brownish-yellow colour, with a cinereous tinge. The pileus varies in being sometimes conical, but the usual shape is globose or ovate.

This is the common eatable Morell, and is esteemed as a valuable article of food, though it is not much known in this country. It is easily recognized by its honeycombed pileus, and agreeable (though faint) smell.

PEZIZA.

Cup-shaped; cup more or less concave, soon expanded; the disc naked. Asci fixed, accompanied by paraphyses.

Of this genus many more than 100 species are described by Fries, in his 'Systema Mycologicum,' and many more have been added since.

PEZIZA COCCINEA, Jacq. *Carmine Peziza.* Cup infundibuliform, externally whitish and tomentose as well as the stem; disc carmine.—*Grev. Sc. Crypt. Fl. t.* 171.

On rotten sticks, lying on the ground or buried in the soil, in woods. Spring. Not uncommon.

Cup one inch or more broad, deep carmine (or rather of a colour between crimson and scarlet) within. Stem half to one inch high, but frequently the plant is sessile. Asci long. Sporidia elliptic.

A large and handsome species, rather rare. It often appears to grow out of the ground, but on examination it will be found attached to some rotten branch buried in the soil. It is a lovely object, when its deep red cups are seen in some dark sequestered spot, contrasting charmingly with the black soil or moss-grown stump on which it grows.

PEZIZA ÆRUGINOSA, Pers. *Verdigris Peziza.* Verdigris-green; cup turbinate, at length expanded, and more or less flexuous; stem short.—*Grev. Sc. Crypt. Fl. t.* 241.

On rotten branches, stumps, etc. Not uncommon.

A curious species, which possesses the remarkable property of staining the wood on which it grows of a deep verdigris-green, for a considerable depth. The cups, which are not often developed, are pale externally and sometimes wrinkled.

Suborder 2. TUBERACEI.

Hypogæous. Hymenium mostly convolute and forming veins, in which the asci are irregularly distributed.

The plants of this Suborder grow more or less completely below the surface of the soil, and the asci and sporidia are enclosed within their substance, which is often compact and solid.

The various kinds of Truffles belong to this group, of which I shall take, as the type, the genus Tuber.

TUBER.

Uterus closed, marbled with veins internally. Sporangia (asci) pedicellate, confined to the veins.

TUBER CIBARIUM, Sibth. *Common Truffle.* Warty, black.

Buried in the soil of woods, especially Beech-woods.

Common in some parts of England, but generally rare.

Forming rough, irregular, rounded bodies of 1 to 2 inches (or more) in diameter, covered with small, sub-pyramidal warts. Within white, marbled with darker veins.

This is the common Truffle of this country, and is now named *Tuber æstivum*. Attempts have been made to cultivate Truffles, but hitherto without success.

Suborder 3. PHACIDIACEI.

Hymenium at length more or less exposed; disc orbicular or linear; margin generally involute; walls coriaceous.

In this subdivision, the perithecium is generally of a hard or cartilaginous nature, and often of an elongated form, and the hymenium (or disc) is at first closed, and afterwards expands more or less as the plant reaches maturity. The species generally grow on dead wood, or other vegetable substances.

I shall instance the genera Hysterium and Rhytisma.

HYSTERIUM.

Perithecium elliptic or elongated, bursting by a simple longitudinal fissure.

The Hysteria are very nearly allied to the Lichens of the genera Opegrapha and Graphis, but the want of a crust and of green gonidia places them among the Fungi.

HYSTERIUM FRAXINI, Pers. *Ash-turf Hysterium.* Erumpent, elliptic, hard, black, lips tumid even, disc linear.—*Grev. Sc. Crypt. Fl. t.* 72.

On the smaller fallen branches of Ash. Winter and spring. Common.

A common species on Ash-branches, forming groups of small, elliptic, black excrescences, sometimes arranged in a circular manner. It is the *Sphæria sulcata* of the older botanists. The asci are clavate, and the sporidia large, yellow, and fenestrate.

RHYTISMA.

Perithecium of no regular form, bursting, with a more or less flexuous fissure, into transverse fragments. Asci erect.

RHYTISMA ACERINUM, Pers. *Sycamore Rhytisma.* Innate, spots confluent, rugose, bursting by flexuous, labiate fissures, disc pale.—*Grev. Sc. Crypt. Fl. t.* 118. On leaves of the common Sycamore and Maple. Extremely common.

Almost every Sycamore-tree appears to be more or less affected with this Fungus, which appears in the form of black spots on the leaves in early autumn, disfiguring them much, and appearing to produce a premature decay and fall of the infected leaves. The plant does not perfect its fructification till the spring of the following year, when the leaves have lain long on the damp ground, and the fissures then open and discharge the sporidia in clouds. The asci are clavate, and the sporidia long and filiform.

Suborder 4. SPHÆRIACEI.

Perithecia free or immersed in a stroma, or receptacle, opening by a distinct punctiform or short linear aperture. Asci mostly springing from the walls.

This is a very large and important group of Fungi, and contains an immense number of species. Of the genus *Sphæria* alone two hundred species are described in the 'English Flora,' and at least one hundred more have been added to the list of British species since the publication of that work.

This group is distinguished by the more or less spherical shape of the perithecia, but the plants vary much in outward appearance. I shall take the genus Sphæria as the type, and describe several species of it.

SPHÆRIA.

Perithecia rounded, entire, furnished at the apex with a minute orifice. Asci converging, at length dissolving.

This extensive genus is now divided into a number of different genera, corresponding (generally) with the principal divisions of it, as given in the 'English Flora;' but as I have taken this as my text-book, I shall not distinguish these new genera. The sporidia of the *Sphæria* are very various in form, and often very curiously marked and divided. They are beautiful objects under the microscope.

The little black spots, so often to be seen on decaying branches of trees, mostly belong to this genus.

Sphæria Hypoxylon, Linn. *Flat-horned Sphæria.* Compound, club-shaped, stipitate, simple or branched, corky, compressed, at first pulverulent with white meal, then naked, stem villous.

On sticks, stumps of trees, etc. Very common.

A common species on old stumps, etc., everywhere. It is from 2 to 3 inches high, at first white, with black tips to the branches, then becoming black, and the stem villose. The perithecia are borne at the apices of the branches, which become swollen when in fruit, but the plant is often barren. This Fungus was formerly associated with the *Clavariæ,* and called *Clavaria Hypoxylon.* The asci are long, and the sporidia cymbiform, of a brown colour, and each contains two sporidiola.

Sphæria disciformis, Hoffm. *Disc-like Sphæria.* Compound, orbicular, plain, even black, whitish within; perithecia attenuated into a slender neck; ostiola punctiform.—*Grev. Sc. Crypt. Fl. t.* 314.

On dry branches of Beech, etc. Common.

About 2 lines broad, at first reddish, then becoming brown and finally black. It forms little circular raised spots on the affected branch, surrounded by laciniæ of the cuticle, which has been torn asunder by the bursting forth of the Fungus. The disc is dotted over with the ostiola of the perithecia. The asci are slender, and the sporidia simple, oblong and curved.

Sphæria cinnabarina, Tod. *Vermilion Sphæria.* Compound, cæspitose; perithecia globose, corrugated, vermilion, at length brownish; ostiola papillæform.—*Grev. Sc. Crypt. Fl. t.* 135.

On dead branches of trees. Extremely common.

Forming little clusters of brownish-red capsules (perithecia), which, when examined by the lens, are found to be rough and granulated, and which somewhat resemble strawberries. The asci are short and obtuse, and the sporidia short, oblong, and simple (or sometimes septate).

Suborder 5. Perisporiacei.

Perithecia free, mouthless, at length dehiscent, often surrounded by threads distinct from the mycelium, and called fulcra. Asci often absorbed at an early stage, springing from the base.

The species of this group are distinguished by considerable development of the mycelium, by their habit of growing on living plants, by the thin brittle walls of their perithecia, and by their tubular or sac-like asci springing from the base (and not from the walls) of the perithecia.

At an early stage they present the appearance of Moulds, consisting then entirely of interwoven filaments or flocci, generally of a white colour, and in this state they constitute the mildew of the Vine, the Rose, the Turnip, etc., and do much injury, especially to the Vine, which in some places has been almost destroyed by it. In some species the plant never seems to advance beyond this stage, but perithecia and fruit are produced in most species. I shall instance the genus *Erysiphe*.

ERYSIPHE.

Perithecium fleshy, opening at the collapsing apex; mycelium floccose, effused, free; fulcra floccose.

ERYSIPHE COMMUNIS, Schlecht. *Common Erysiphe*. Flocci effused, arachnoid, dirty white, at length forming spots; fulcra simple, acute, deflexed; perithecia many.

On various herbaceous plants, common. Frequent on the garden Pea, forming the Pea-mould of gardeners; *E. Pisi.—Grev. Sc. Crypt. Fl. t.* 134.

Appearing at first in the form of a white floccose stratum on the affected leaf (or stem). After a time, minute yellow bodies appear, which become darker and finally black. These are the perithecia and contain short sac-like asci, within which are broadly oblong sporidia, generally four in number.

Suborder 6. ONYGENEI.

Receptacle club-shaped or globose, peridium brittle, filled with branched threads, which produce asci at different points. Asci soon absorbed. Sporidia filling the cavity of the peridium, pulverulent.

A very small group and little known. I shall describe the genus *Onygena*.

ONYGENA.

Peridium capitate, crustaceous, at length splitting. Asci delicate, evanescent; sporidia at length forming a dusty mass.

The species of this genus are remarkable for growing on *animal* substances, as hoofs, horns, flannel, etc.

Onygena equina, Pers. *Horse-hoof Onygena.* Head lenticular, furfuraceous, dirty-white, at length splitting all round; stem abbreviated. *Grev. Sc. Crypt. Fl. t.* 343.

On the hoofs of horses, cows, sheep, etc., and also on horns. Rare.

A curious little fungus, from two lines to a quarter of an inch high, having a short solid stem and a globose, often flattened, head. The plant is of a whitish colour, and the sporidia when ripe are pale reddish-brown.

Since I commenced these chapters, an excellent work on British Fungi, entitled 'Outlines of British Fungology,' has been published by the Rev. M. J. Berkeley (one of the greatest living Mycologists), which brings down the science to the latest period, and which should be in the hands of every one who wishes to pursue the study of Mycology in this country.

THE DENS OF BONHARD AND MURRAYSHALL.

A Few Hours' Botanizing in the Dens of Bonhard and Murrayshall. By John Sim, A.B.S.Ed.

The house and lands of Bonhard lie about two miles east of Perth. The mansion and domains of Murrayshall a mile further onward in the same direction. The situation of both estates is beautiful and highly desirable. The lawns and pleasure-grounds are laid out and decorated very tastefully, and nature herself has contributed liberally to the adornment of these two localities. But it was not their natural beauty, increased by art, that led the writer of this paper to visit their woods and dens; it was their wild flowers that stimulated my desires to know personally somewhat of their botany.

Some time ago I had sent from the Den of Murrayshall a plant which the finder did not know and asked me to name. It was the *Claytonia alsinoides,* and I was told it grew there in abundance. I was determined as soon as I was able to verify this new locality by a personal inspection. Accordingly, on the 28th of May, 1862, the day being fine, I started for the Den of Murrayshall, taking with me my young son (ten years) to bear me company. I left Perth about nine a.m. and on my way passed through the village of New Scone; I there found the young man who gathered the *Claytonia*, and who is just setting out on his botanical career, full of zeal and ardour. He kindly guided and accompanied me to the *locale* of the *Claytonia*, as well as of a few other rarities which will be enumerated by-and-by. After rest and refreshment at my young friend's residence, we left about half-past ten and wended our way along the banks of the Burn which runs through the Dens of Murrayshall and Bonhard. Neither of these dens is so romantic and picturesque as the Den of Invermay, nor so densely wooded; yet they are both pretty, and studded with trees both natural and planted.

The Den of Bonhard begins a little to the east of New Scone village, and terminates about two hundred yards to the northward of Bonhard house. It is about a half a mile in length. The south side is steep and wooded, and contains the usual sylvestral plants of the district, none of them apparently very rare; the north side is low and cultivated to nearly the edge of the stream. Passing along this den we observed the following plants, some of which were in flower and some not. *Cardamine pratensis, Carex præcox, Prunella vulgaris, Alchemilla vulgaris* and *A. arvensis, Veronica Beccabunga, Carduus palustris, Reseda luteola, Hyperica pulchrum, hirsutum* and *perforatum, Viola sylvatica, Geum rivale* and *G. urbanum, Luzula pilosa* abundant, *Luzula campestris* and *L. sylvatica, Lathyrus macrorhizus, Bunium flexuosum, Stellaria uliginosa* and *S. Holostea, Ajuga reptans, Geranium sylvaticum, G. molle,* and *G. dissectum, Hieracium vulgatum* and *H. Pilosella, Orchis mascula, Galium verum* and *G. saxatile,* and *G. Aparine* in the hedges. *Primula vulgaris* and *Orchis mascula* in profusion along with *Saxifraga granulata,* all in blossom, adorned the banks and braes of the purling stream. In a rather inacessible spot, at a few yards' distance, a single plant of *Campanula latifolia,* not yet in flower, caught my eye.

Mercurialis perennis also occasionally appeared under the shade of the trees. Our common Broom, with its golden blossoms, added to the beauty of the scene; its less hardy companion, *Ulex europæus,* still showed some signs of animation, though almost entirely killed by the intense frost of 1860–61.

Polypodium vulgare, Lastrea Filix-mas, and various species of *Hypnum,* blended together in sweet confusion. *Rosa villosa* is here far more common than *Rosa canina*. *Helianthemum vulgare* and *Thymus serpyllifolium*, not yet in flower, carpeted the dry mounds and barren rocks, *Oxalis Acetosella* was plentiful, nearly out of flower.

Leaving now the Den of Bonhard, we passed along the county road a short distance; and to the right, at the foot of the hedge, observed *Adoxa moschatellina*, but gone out of the flower. Passing eastwards a little further, we observed by the side of the hedge a plant of *Polemonium cœruleum*, the first I ever saw truly wild; we let it alone, as it was a rarity (in Scotland at least) and not yet in flower. Crossing over the hedge to the left, we again come to the side of the small stream and the end of the Den of Murrayshall, when all at once I was struck with something on the sides of the burn in large patches of a snowy white colour: on approaching it, I soon found it to be the object of my pursuit, the *Claytonia alsinoides*, in the most lavish profusion and greatest luxuriance, not five or six inches high, but fifteen or eighteen, and so abundant as to rival the daisies of our fields and meadows. It was really astonishing to see it. It was in such abundance, not merely under the trees along the margin of the brook, but distributed elsewhere in large luxuriant patches throughout the plantation. I ascended the Den for about a quarter of a mile, as far as my strength would permit, and still the lovely *Claytonia* was my companion. It is a dainty little plant, with its starry corollas and magenta-coloured (pink) anthers. I said in my own mind, surely this is the "head-quarters" of the *Claytonia*, that of the Scone wood being only a "detachment." Whatever botanists may say about the nativity of this plant, I am as firmly convinced in my own mind that *Claytonia alsinoides* is as much indigenous to Scotland as *Stellaria Holostea*, which no one ever called in question. People may cavil about this plant as they do about many others, and cry out, "outcast from gardens," "escape from cultivation;" but let any unprejudiced observer see this plant in the Den of Murrayshall, and I think he will at once subscribe to my creed. I may mention, that prior to entering this Den, by the hedge-side and elsewhere, we collected *Arenaria trinervia*, a plant frequent about Perth. *Fragaria vesca* and *Potentilla Fragaria* were abundant in Bonhard Den. I neglected to mention this while enumerating its plants. Having now traversed the bottom of Murrayshall Den for about a quarter of a mile, I became greatly fatigued, and made my way in a sloping direction to the walk which went along its southern side. I sat down, unable to proceed further: after resting a little, my juvenile companion informed me that two or three very large plants grew a little further up the stream, but that he knew neither their name nor nature. After being rested a little I proceeded some few yards further on, and my companion told me he was now at the place. I looked across the ravine and espied some robust plants with large leaves under the trees, and requested him to descend and bring some of them, as I was unable to go from sheer fatigue. I waited patiently for his return, and after a delay of about a quarter of an hour my companion recrossed the brook, climbed the brae, and laid the following at my feet:—*Doronicum plantagineum*, *Pulmonaria officinalis*, *Symphytum officinale*, the red-flowered variety and four feet in height, *Valeriana pyrenaica*, and *Asperula taurina*, the latter in no great quantity, the others tolerably plentiful. *Asperula taurina* is recorded in 'Babington's Manual' as having been found in two localities in England; this is now a third one, —the Den of Murrayshall, three miles east of Perth. The beautiful mosses *Mnium hornum* and *M. punctatum* lined the sides of the Den, the former in fruit, the latter barren. I now wended my way home; and after rest and refreshment at my friend's domicile, arrived at No. 9, Bridge End, greatly fatigued, but amply satisfied at finding so many rare and beautiful plants.

JOHN SIM.

CHAPTERS ON BRITISH BOTANY.

CHAPTER VII.—BOTANICAL BIOGRAPHY.

London Botanists:—Turner Lyte, Lobel and Pena, Gerard, Parkinson, Johnson, How, Merret.

Johnson, the learned and gallant editor of Gerard's 'Herbal,' introduces the first name entered in the above list, thus:—"Let me now at last looke home (he had previously been describing foreign botanists, both ancient and modern), and see who we have had who have taken pains in this kinde. The firste that I finde worthy of mention is Dr. William Turner, the first of whose works that I have seen was a little book of the names of herbs in Greeke, Latine, Englyshe, Dutche, and Frenche, etc., printed at London in 1548. . . . He was a man of good judgment and learning, and performed well what he tooke in hande." The readers of the 'Phytologist' know that there is still extant a printed and published work of this eminent early botanist, which bears on its title-page the date of 1539. A manuscript copy of this precious relic is in the possession of the writer of this article.

Dr. Turner's residence for a short period in Sion House, at Isleworth or Brentford, where he localized some plants described in his History, and his subsequent residence in London, where he died and where he was buried, entitle him to a place among the metropolitan botanists. His merits and his works were described at some length in a former number of this periodical.

Mr. Henry Lyte, the translator of Dodoens or Dodonæus, forms a link between Dr. Turner and the celebrated botanists Lobel and Pena. The first edition of Lyte's work appeared in 1578. Lobel was of Flemish origin, and born at Lisle in 1538, and very early in life showed a decided partiality to the study of plants. Johnson says that he was born at Ryssele, in Flanders. Dr. Pulteney informs his readers (vol. i. p. 97) that he studied at Montpelier, under the famous Rondeletius, who was celebrated as an *ichthyologist*. During his residence at this celebrated seat of learning, he made collections of plants in that locality, so renowned for its salubrity and its botanical riches.

At Narbonne, the same author says, he formed a connection with Pena, who was jointly concerned with him in his first work, the 'Adversaria,' which contains some original notices of British plants, and was published in 1570. A more complete edition of this learned work was published in 1605.

Dr. Pulteney informs us that this work contains the first sketch of a natural method of arrangement, by which the plants are grouped according to their external appearance or their habit and flowers. Though rude, it is considered by this critic—surely no mean judge—far superior to Dodoens' divisions.

The learned doctor, quoting Ray's remark, further states that Lobel points out precisely the particular spots where some of the rare English plants are found growing spontaneously; also, that he has been "in this respect inaccurate, or trusted too much to his memory, since many have been sought for in vain in the situations he specified." This is a remark which might be made about some of Ray's own localities, and probably about those of every local botanist; for plants are sometimes nearly, if not quite extirpated; sometimes the very locality is so changed that certain species cannot possibly grow in places where they once flourished in abundance.

Johnson, the editor of the *emaculate* edition of Gerard, says, "Lobel and Pena's figures are very small and imperfecte, by reason (I conjecture) they were taken from dried plants." This is repeated by Dr. Pulteney in these words:—" Lobel's own figures are small and insufficient in many cases to express the habit of the plant, the delineation of which was almost the extent of the efforts of those days." We cannot ascertain exactly what figures are Lobel's own; but if the figures of the two forms of the common Valerian have been borrowed by Lobel, Clusius, Gerard, Johnson, and Parkinson have not scrupled to follow his example. These eminent contemporaries and successors have imitated his cuts as accurately as could have been done by a photographic apparatus. Most of his figures are as large as those common in his time, and no marvel, for one set of engraved blocks might have supplied all the botanists of Europe during the sixteenth and seventeenth centuries. They were all probably made at one *burin*.

The historian of the progress of Botany in England, states that Lobel died in 1616, aged seventy-eight, and he also enters a little bit of scandal about the peevishness and morosity of our early English botanist, who felt the infirmities of age in his temper as in his aged limbs. He was probably soured by disappointment. See Pulteney's Sketches, vol. i. p. 105, and also the preface to a work which Lobel began, and which was never finished, viz. 'Illustrationes Plantarum.'

Lobel was born in 1538, and died, as stated above, in 1616, in a good old age; and posterity has recognized and immortalized his memory in the genus *Lobelia*, which contains a great number of very useful and ornamental plants, most of which grow in a warmer climate than our own. We have two British species.

Of good old Gerard very little is to be gleaned from contemporary history. We only know that he was born at Nantwich, Cheshire, in 1545, and was educated for the medical profession. All our early botanists were in some way or other connected with the Æsculapian school.

Gerard was patronized by the great Lord Burleigh, also an amateur of the innocent craft, and who had, for these early times, a choice collection of botanical rarities. Our hero superintended his Lordship's garden, as he tells us, "for the space of twenty years." "To the large and singular furniture of this noble island," Gerard writes, "I have added from forreine places all the varieties of herbes and floures that I might in any way obtaine. I have laboured with the soile to make it fit for plants, and with the plants that they might delight in the soile, that so they might live and prospir under our clymat as in their native and proper countrey. What my successe hath beene, and what my furniture is, I leave to the report of they that have seen your Lordship's gardens, and the little plot of mine owne special care and husbandry." The worthy author then refers to the general mutability of human things, from which gardens are not exempt, for a good gardener may be followed by an ignorant successor; and proceeds to tell both his Lordship, in his dedication, and the botanical public, *a small one,* that he trusts to his pen for the perpetuity of his *furniture,* both of his garden and of his mind and spirit. The result has proved the wisdom of his resolution, for both gardens have perished, but the memory of their superintendent is still as green as the holly and mistletoe at merry Christmastide.

The little that we know of Gerard is to be gleaned from his book; all other memorials have passed away. His garden in Holborn, the little *plot* which he called his own, and the large and well-furnished garden of his noble patron, are now, alas! no more; they have for ages been occupied or traversed by thousands and myriads of men, women, and children, many of whom never heard of the humble botanist, nor knew much about the powerful minister of Queen Elizabeth, his powerful patron.

Gerard's earliest work is a catalogue of the "furniture" of his own garden, as he calls his plants; now so scarce, that the library of Sir Joseph Banks, in the British Museum, possesses only a manuscript copy of this rarity, published in 1596.

His 'Herball' was published in the following year, 1597, and dedicated as aforesaid to his noble patron, the great Earl of Burleigh. Gerard died about 1607, being upwards of threescore.

Honest John Parkinson should be placed before Johnson, the learned and brave *emaculator* of Gerard; for, although Johnson's edition of Gerard's 'Herball' was published some years before Parkinson's 'Theatrum Botanicum' (theatre of plants), the author of the latter was born many years before Johnson.

The subject of this notice was born in 1567, according to Dr. Pulteney, who further tells his readers that his 'Paradisus' was dedicated to Queen Elizabeth; it is dedicated "to the Queene's most excellent Majestie," but not to the celebrated *Queen*, who had now, in 1629, been dead above twenty years (twenty-three years).

In this early work mention is made of several rare English plants, which were known to Parkinson as natives of our isle: for example, our two Hellebores, which "grow in divers places within eight or nine miles of London;" also that "the blew Periwinkle groweth in many woods and orchards by the hedge-sides in England." This original work will convince those who value only the far-fetched and the costly, that our own land produces many of the most curious and beautiful species of ornamental flowers, for example, Snowdrops, Crocuses, Daffodils, Tulips, Pinks, Anemones, Columbines, and many more with which the great treasury of nature is so abundantly stored.

Sprengel, in his history, 'Rei Herbariæ Historia,' lib. v. cap. iv. vol. ii. p. 144, mentions Parkinson as the royal gardener, or superintendent of the garden at Hampton Court. What authority the learned historian of Botany had for this fact he does not state. Pulteney merely says that he had conferred on him, by Charles the First, the honorary title of *Botanicus regius primarius*. If the Hampton Court garden was founded by the great Queen, or even patronized by her, John Parkinson might have been, as Sprengel states, its first superintendent. His 'Paradisi in Sole,' 'Paradisus terrestris,' is an ample testimony, both to his ability and energy.

The numbers of Tulips, Narcissuses, Carnations, Pinks, Crocuses, Anemones, etc. then cultivated, might even still excite our admiration and our sense of obligation to the botanists and florists of that early period, and show that our predecessors were not unsuccessful cultivators, though they had but few of the modern mechanical appliances which are now so commonly adopted in the service of floriculture.

The Earthly Paradise is divided into three parts, viz. flowers for ornament, culinary plants, and fruit-trees. The number of figures is nearly eight hundred, and these are, on the whole, very fair illustrations of the plants which they are intended to represent.

His next great work, the greatest that had ever been compiled in England on this subject, appeared eleven years later than the 'Paradisi in Sole,' which was published in 1629, and dedicated to the Queen Henrietta, the consort of Charles the First.

The Theatre of Plants, 'Theatrum Botanicum,' was published in 1640, four years after Johnson's emaculate edition of Gerard; and it was dedicated to the King. Like most books published at this period, it was introduced by many and highly eulogistic commendations; one of the most flattering is by Sir Theodore de Mayerne, who panegyrized the Paradise on the Earth. "I know that whosoever shall runne through so many fields, woods, hills, etc., as this work includeth, and shall trip at no time, 'hic erit mihi magnus Apollo;' I will crowne him with such a garland as neither his antecessors or successours ever did or shall weare." This famous physician, of whom there is an account in A. Wood's 'Athenæ,' had been employed in his medical capacity by four kings, viz. Henry IV. and Louis XIII. of France, and by James I. and Charles I. of England. We have pleasure in recording that this great doctor was one of the notabilities of Chelsea, a locality celebrated for great men, learned professors of the healing arts, and successful botanists, of which last class more will be recorded hereafter. This member of the faculty was interred in the church of St. Martin's-in-the-Fields, where there is a grand monument to his memory, and on which is inscribed the long catalogue of his virtues. All the good qualities with which humanity has ever been or ever will be characterized, resided in him :—

> "Quid de Mayernio plura ?
> Mayernium dixeris, omnia dixeris."*

The MSS. of this royal medical professor are in the Sloane collection, or many of them. Twenty volumes, exclusively on his medical cases, are in his own handwriting, and form the medical annals of the Court during the first half of the seventeenth century.

The King's herbarist, the author of the Theatre of Plants,

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* Newport's 'Repertorium Ecclesiasticum,' 660.

John Parkinson, was not unmolested by the strife of tongues. He had probably heard, prior to the publication of his great work, disparaging remarks both on his social rank and his qualifications, and, like a prudent man, disregarded them as the pitiful effusions of spiteful envy. But in his preface he manfully repelled the insinuations urged against the purity of his motives, and the objections made to the method which he purposed to adopt. He acted like a man conscious of good intentions, as one who could appeal to his labours to prove that he had taken pains to realize his purposes; and bravely anticipated and repelled the malicious, disparaging innuendos of his envious detractors.

On this subject (detraction) he continued, "One bout more with *Momus* (the personification of fault-finders), that would teare this worke in pieces because I have not followed Gerard's method in setting letters to the several virtues of the plants, etc. . . . I verily say unto you (the reader), that by the alteration you enjoy a double benefit; first in the bulke of the book, which, if that course had been followed, would have enlarged it neare halfe as much more, and made it the more unwieldy, and likewise the dearer, and never a whit the better. Secondly, in recompense of the time spent in looking for what you seek, you may reade that which may be more helpeful and more beneficial to you. Let *Momus'* chaps therefore be sowed (sewed) up to barke no more."

Parkinson knew that the best-devised schemes, however honestly and laboriously carried out, are not always successful; but he conscientiously appeals to his long practice and his diligence in consulting the learned works of his contemporaries and predecessors, as a proof that he had not been negligent in preparing his materials.

Possibly his rivals jeered him about the length of time his work had been on the anvil. The process of incubation had been going on for probably above half a century. Waggish and waspish people, who delight in the ignoble work of ingeniously tormenting, might say, "the egg is addled." To these facetious calumniators, he, Parkinson, properly rejoined, "Master Johnson's agility could easily wade through it [Gerard's Herbal, which was done in a short space], and his younger yeares carry away great burdens, for, saith he, 'heavy taskes are worst borne by them that are least able,' but his quicke speede may conclude with this adage, *Canis festinans cæcos parit catulos*, or as they say in Scotland, 'the more haste the less speed,' and in England, 'the most haste the worst speed.' "

This great work of Parkinson's justifies the title, "England's chiefest herbarist," bestowed on our author by the greatest of his panegyrists, Sir Theod. de Mayerne, was not ill applied. Dr. Pulteney's opinion is ours, and we are pleased to have so excellent an authority on our side (see p. 144, vol. i.) :—" It is manifest, even from a cursory view of it [the 'Theatrum Botanicum], that it is a work of much more originality than that of Gerard, and it contains abundantly more matter than the last edition of that author, with all Johnson's augmentations." Again, in p. 148, the same ingenious historian wrote, " In this view, if I am not mistaken, he will appear more of an original author than Gerard or Johnson, independent of the advantages he might derive from being posterior to them. His Theatre was carried on through a long series of years, and he profited by the works of some late authors, which, though equally in Johnson's power, he had neglected to use. Parkinson's descriptions, in many instances, appear to be new. He is more particular in pointing out the places of growth, etc."

The writer of these brief notes on the labours of our early English botanists has much pleasure in indorsing the favourable estimate of Parkinson, above given by the amiable author of the 'Progress of Botany in England;' and he further presumes to add, that he has perused no work, compiled either previously or contemporaneously with the 'Theatrum Botanicum,' which contains so much information about plants, so much sound learning and judicious criticism.

Its author did not profess scholarship; he very modestly told his readers that he was in the humblest rank of the honourable profession to which he belonged; yet no previous author had collected the opinions of the learned in all ages on plants so industriously and learnedly as Mr. Parkinson.

His work contains descriptions of nearly 3800 plants, or about a thousand more than are to be found in Johnson's improved and amplified edition of Gerard, according to Dr. Pulteney (p. 150, vol. i.), and as it has been, almost in every case, quoted by Ray, it has been " raised to classical eminence in English Botany," an eminence which it must retain as long as the works of the most renowned of British botanists are consulted.

We have not yet ascertained the year of Parkinson's death; all certainly known about this important event is that he was alive in 1640, when his great work appeared, and was then in his seventy-third year; and also that he had departed prior to 1656, when a second edition of the Paradisus was published.

Notices of William How and Christopher Merrett are postponed; they will be inserted in some subsequent number.

SHAMROCK (TRIFOLIUM REPENS).

(*To the Editor of the 'Phytologist.'*)

Sir,—In 'Phytologist,' Vol. VI., N. S., p. 30, W. J. H. Ferguson boldly tells your readers that they are all in the "wrong boat" who say or write that Erin's green, immortal Shamrock is *Trifolium repens*, the common white Clover, the commonest of all our *Trefoils* in England, and which a writer in the 'Phytologist' has recently informed us was not introduced into Ireland at so early a period as St. Patrick's arrival in the Isle of Saints. What will Professor Babington say to this? Will he admit its true nativity in England, and brand it as an alien in the sister island? *Nous verrons:* i.e. time will tell us. We must wait with as much patience as we can muster, while the oracle is silent.

Mr. Ferguson starts no new game; he only tells us what we have heard before, viz. that the genuine Shamrock is not the White Clover, as all Irish botanists say,—and Ireland's greatest poet also clinches the assertion,—but the *Wood Sorrel*, an idea first promulgated by Mr. Bicheno,* of the Linnæan Society, and published in the 'Journal of the Royal Institution.'

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* This eminent authority relies on the subjoined extract from Spenser's 'View of the State of Ireland.' It is quoted entire, and our readers are requested to form their own opinions on its relevancy. Mr. Bicheno also quotes Fynis Moryson and the poetical lines from the 'Irish Hudibras.'

"Spenser, in his 'View of the State of Ireland,' proves that one of the Shamrocks was an edible plant. His description of the half-famished natives and their hunting after this herb is related in the following extract:—" Out of every corner of the woods and glynnes, they came creeping forth upon their hands, for their legs could not bear them; they looked like anatomies of death; they spoke like ghosts crying out of their graves; they did eat the dead carions, happy where they could find them, yea, and one another soon after, inasmuch as the very carcases they spared not to scrape out of their graves and if they found a plot of Watercresses or *Shamrocks* there they flocked as to a feast for the time, yet not able to continue long there, Also Mr. Ferguson affirms, that this is satisfactorily established by a remark in Mr. Fynis Moryson's 'History of the Civil Wars in Ireland between 1597 and 1603,' where it is written that "the natives willingly eat the herb Shamrock, being of a sharp taste." The ingenious historian gives the names of many other esculents and viands on which the Irish at that period fared; and from his account it may be inferred that they were not delicate eaters.

It may however be a fair inference, that as this herb, viz. the Wood Sorrel, yields only a scanty herbage, they had but short commons. It is possible, however, as Mr. W.—another writer on this obscure subject—remarks, that the herb they (the Irish) ate was Cress of some kind or other, either water or land Cress. The latter has, however, started a new idea, viz. that the Shamrock may be *Oxalis corniculata*—a hypothesis which surely no reasonable man would deny, any more than he would doubt that there are possibly a hundred plants in Ireland which would do as well to represent the Shamrock as either of the two popular favourites.

If it be worth while to discuss the subject a little further, it may be remarked—not in hostility to Mr. Ferguson's view—that *Oxalis Acetosella* does *not* grow in ditches, nor *much* by roadsides. Its habitat is the wood on old roots, or on bushy banks. Watercresses grow in ditches, and they are to this day both eaten and sold by Erin's rosy-cheeked maidens, who hawk them about the streets of this great town; and their shrill cries are very annoying to those who have musical, or sensitive, auditorial organs, and to those who indulge in contemplative moods, like Mr. Babbage.

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withal, that in a short space there were none left, and a most populous plentiful country left void of man and beast: there perished not many by the sword, but all by extremity of famine."

From the Irish 'Hudibras,' the following lines are taken:—

"Shamrogs and Water Grass he shows,
Which was both meat and drink and close" (clothes).

"Nees, when the Shamrog he did spye,
Cries out, 'I have it in my eye.'"

Again,—

"Within a wood near to this place
There grows a bunch of three-leaved Grass
Called by the boglanders Sham Rogues,
A present for the Queen of Shoges" (fairies).

Again, a hint may be offered to both of the gentlemen who have been so kind as to give us their opinions on the subject; it may be remarked that the Irish name of *Oxalis* is *Seamsog*, and of *Trifolium, Seamrog,* and the latter is also synonymous with *Seamair bhan,* or White Clover. Etymology is therefore clearly in favour of White Clover's being *Shamrock.*

Again, though historical tradition is silent on the subjects legendary lore agrees with the commonly, received notion, that *Trifolium repens* is the national vegetable emblem of Hibernia. Before St. Patrick's arrival, there were no monasteries in Ireland; these establishments did not precede, but were long subsequent to, the introduction of Christianity. There could therefore have been no monastic gardens, whence the Saint could have plucked a leaf of *Oxalis corniculata* to illustrate his doctrine.

Furthermore, the botanists of Ireland have with one consent agreed about the identity of White Clover with Shamrock, as may be shown by the following quotations.

First, Threlkeld, in his 'Synopsis Stirpium Hibernicarum,' a brief treatise on the native Irish plants, under the name of *Trifolium pratense album,* has the following note:—

" White-flowered Meadow Trefoyl. The Meadow Trefoyls are called in Irish Shamrock, as Gerard writes in his 'Herbal,' which was first published in 1597, the editions after being 1633 and 1636. The word *Seamar Leaune* and *Seamar oge* being in signification the same, the first signifying the *Child's Trefoyl,* the other the *Young Trefoyl,* to distinguish them from the *Seamar Capuil,* or Horse *Trefoyl,* as I suppose.

" This plant is worn by the people in their hats upon the 17th day of March, yearly (which is called St. Patrick's Day), it being a current tradition that by this *three-leaved Grass* he emblematically set forth to them the *mystery of the Holy Trinity.* However that may be, when they wet their *Seamar-oge,* they often commit excess in liquor, which is not a right keeping of the day to the Lord, error generally leading to debauchery."—Dublin edition, 1727, 8vo.

Dr. Mackay, the modern great authority on Irish Botany, in his 'Flora Hibernica,' published 1836, gives the following statement under *Trifolium repens,* White clover:—" This is the Dutch Clover of agriculture, and is deservedly in great repute for pastures. It is the plant which I have observed for the last thirty years to be worn as the Shamrock on Patrick's day."—*Mackay, Fl. Hib.* p. 77, 1836.

The next authority is that of the greatest of lyric poets, both of the ancient and modern masters of song. Thomas Moore (see 'Irish Melodies,' illustrated by Maclise, note 42, p. 88) has the following observation on the triple-leaved grass, *Trifolium repens*. "St. Patrick is said to have made use of that species of the Trefoil to which in Ireland we give the name of SHAMROCK, in explaining the doctrine of the Trinity to the Pagan Irish. I do not know if there be any other reason for our adoption of this plant as a national emblem. Hope, among the Ancients, was sometimes represented as a beautiful child, standing upon tiptoes, and a Trefoil, or three-coloured Grass, in her hand."

Finally, it is notorious that this is the leaf universally worn by Irishmen on the 17th of March; also it is well known that the origin of this national emblem is still to be discovered. Like the Scots' Thistle,—What is the identical plant? is a question that can be more easily asked than answered.

The exhibition of the Shamrock, whatever be the genuine plant, on St. Patrick's Day, is probably only a modern usage. I have looked into the early histories of Spenser and Moryson, and discovered no record of this observance. I wish some learned reader of the 'Phytologist' would tell us if he has been more successful than the writer of these remarks has hitherto been. Is there anything about this plant recorded in the numerous early biographies of Ireland's celebrated apostle? I have not met with a trace of the tradition. Any definite information on this question would much oblige the few literary antiquarians who find amusement if not instruction in such obscure memorials of bygone times.

HIBERNICUS.

British Museum, April 1st, 1862.

Reviews.

The Manuscript Magazine of the Glasgow Naturalists' Society, Vol. II. January, 1862.

The readers of the 'Phytologist,' some of them at least, may remember that the formation of associations for the study of natural history has been urged more than once in these pages; and, it is to be hoped, not without some good consequences. If the numerous contributions to this Journal have had any hand in effecting this good work, we are thankful; and at all events the merit of good intentions, and that of being well-wishers to the diffusion of knowledge and to the progress of humanity, may safely be claimed.

The contents of the manuscript publication (if the term be admissible) placed at the head of this article are multifarious; for example, "Incidents of an Arctic Voyage, on the Gorilla, on Geology, Zoology, Muscology, Entomology, Botany, Chemistry, Biography, Poetry, on Current Literature," etc. etc.

The work, which consists of nearly three hundred post-octavo pages, is entirely in the autographs of the respective authors, and several of the articles are well illustrated with original drawings, or cuts of the objects described.

A cursory notice of the botanical articles is all that we can afford to enter in the 'Phytologist.' There is no room for criticism, and if there were it would be out of place; as the work cannot be read by the majority of our readers, they could have no means of judging about the fairness of our critique.

The first botanical essay is on British Bryology; and as it is purely elementary, it needs only to be said that the brevity and clearness of its descriptions are commendable.

"Addenda to the British Flora" is a paper on the localities of some species only recently admitted into our national botanical works. *Lilium Martagon* has been detected in the woods of Ashbrook, in the parish of Clondermott, in the county of Londonderry. A note in Dr. Mackay's 'Flora Hibernica' told the fortunate observer that it had previously been seen in the same locality by W. Lawers, Esq., now deceased.

Veronica peregrina was recorded some years ago by the Rev. W. M. Hind; and this species, now no novelty to our British floras, has been discovered in a new locality, and reported for the first time as a rather common agrarial and roadside species. Our author (see MS. Mag. p. 124), states, "We found it growing abundantly in the Londonderry Infirmary grounds, and in parts adjoining the Model School, as a weed of cultivation, along with *Euphorbia Peplus, Senecio vulgaris, Sonchus oleraceus,* etc."

To the description and history of this fresh importation there are added, from the pen of a learned professor, some remarks on its origin and introduction into Europe, but the proof that it is American and not European is not *very* strong. This authority further says that it has probably been introduced into the north of Ireland with seed-corn from the south of France. This is not improbable, if it be true that the Irish farmers buy their seed-corn in the south of France. *V. peregrina* has been seen *wild* in Bohemia, Germany, Belgium, France, Naples, Russia, etc. It is described in Cosson and Germain's 'Flore des Environs de Paris' as being plentiful about Versailles, which is considerably further north than the centre of France. "A. R., assez rare spontané? Observé depuis plus de quinze ans aux environs de Versailles, dans le voisinage des habitations et dans quelques jardins, où il persiste, bien qu'on l'y arrache chaque année avec soin comme une mauvaise herbe" (*De Boucheman*). It has grown about Versailles for fifteen years, in spite of all their diligence in rooting it out of their gardens. See Coss. et Ger. sub *Ver. per.*

Mons. Crepin, in his 'Manuel de la Flore de Belgique,' localizes it thus:—" *V. peregrina :* Lieux cultivés, jardins. R. (rare.) Louvain, Vilvorde, env. de Bruxelles, Habay la Vielle; indigène?" British botanists will, it is believed, unhesitatingly answer this query with an emphatic No.

But these extracts show that its claims to a place among European plants are not altogether groundless.

In Linnæus's 'Systema Plantarum Europæ,' both *V. romana* and *V. peregrina* appear as European species; they may, however, be only varieties of one species. *V. romana* is localized in the south of Europe ("in Europæ australioris agris"), and *V. peregrina* "in Europæ hortis arvisque."

In Müller's Danish Flora the locality is "in insula Amagria, p. 5 (cum signo †)."*

There is strong evidence that the plant has been known as European for above a century, and it has not been confined to a corner. But granting that its nativity, or even spontaneity, is not fully established in the North of Europe, *i. e.* in Denmark, Holland, Belgium, Ireland, Scotland, etc., it should not be inferred that it is not European, because in some parts it is only an accidental, or casual, or stray plant, nor because it is found in the United States of America. Have we no British and European plants which are wild in America? We have several. May not *Veronica peregrina* be one of them? If not a British plant, it has been, for more than a century, received *consensu omnium* as a European species. Because it has overleaped its ancient bounds, it is to be banished to America, the *locus pœnitentiæ* the stool of repentance of evil-doers during the seventeenth and eighteenth centuries."

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* *V. peregrina* is figured in Fl. Danica, iii. 407; in Reichenbach's 'Plantæ Criticæ,' i. 36; in Mutel, 'Flore Française,' 46; in Cosson's Atlas, 16.

Our author continues his notice of this novelty by remarking that he never saw "it growing with corn-crops but in gardens, in potato and flax fields, etc., which may militate against the Professor's theory, that it was originally introduced with seed-corn from the South of France. It is as plentiful in the habitats specified at the beginning of this article as *V. arvensis* or *V. agrestis*, . . . and on the whole I consider it as well established in these localities as any of our native Veronicas. It has been stated that a late Irish nobleman purposely introduced it; but the evidence for this rumour is too vague and scanty to be trusted. Whether foreign or not, European or American, this *Veronica* is established in sufficient profusion to justify its permanent addition to our Flora. It has a better title to be entered among the natives than some species, such as *Buffonia tenuifolia, Swertia perennis, Gentiana acaulis, Stipa pennata*, etc., which, on Smith, Hooker and Arnott's authority, are neither native nor naturalized in Britain."

"*Centranthus ruber*.—This pretty, though almost indisputably exotic plant grows not far from the village of Buxerand, on an abutment of a wall, at no great distance from a garden. Hence its origin in its present locality is not unaccountable.

"In the same district we observed *Crepis paludosa, Apium graveolens, Asplenium marinum*, and some other plants of more common occurrence."

We would cheerfully commend this paper, which is a good one, to the notice of our readers, but few of them can have the pleasure of its perusal.

"A Day on Ben Lomond" is the next botanical essay which attracts our attention. We anticipate and deprecate all the unfavourable strictures which our Glasgow readers might feel disposed to entertain about "the great cry and little wool" of this attractive title. Those who have most experience in mountain botanizing, they who have toiled up Snowdon, Helvellyn, Benledi, etc., know best how barren in results such long wearisome acclivities generally are.

Only a few interesting plants are reported in this paper, none of great rarity, the chief of which follow:—*Hypericum Androsæmum* (will the author be so obliging as to tell us at what elevation or altitude he observed this fine species?); *Viburnum Opulus, Osmunda regalis, Habenaria bifolia, Lastrea spinulosa, Rubus saxatilis, Asplenium viride, Hymenophyllum Wilsoni, Oxyria reniformis, Hypnum proliferum, H. undulatum, Bryum ligulatum, Hookeria lucens, Neckera crispa,* etc.

Further up the mountain, *Chrysosplenium oppositifolium, Saxifraga aizoides, S. stellaris, Cochlearia officinalis,* and *Cerastium alpinum* were abundant. *Cystopteris fragilis* and *Sibbaldia procumbens* are a very respectable rear-guard to the foregoing array of Ben Lomond vegetation.

"The Second Botanical Ramble of a City Naturalist" embodies notices of plants growing between Rutherglen and Dalmarrock bridges—historical and classical ground to the brave men of the "western metropolis." "The Flora of Lanark is a rich and rare one: many an undiscovered floral gem lurks in these glens and by these mountain-streams, awaiting the coming botanist, who will reveal the beauties concealed in this beautiful region, deformed though it be by the industrial progress of modern times. Only three short years ago, two Geums, *G. rivale* and *G. urbanum,* with *Lychnis dioica, L. Flos-cuculi, Galium saxatile, G. cruciatum, Doronicum Pardalianches,* etc., have been forced to quit their quarters, or what may be worse, to succumb to the continual progress of brick buildings."

We are pleased to hear that near Rutherglen still grows *Vinca minor,* a white variety, not common in the south of our island; also *Pyrola minor, Campanula latifolia, Humulus Lupulus, Ribes alpinum.* Here we should rather wonder to find the two last-named in juxtaposition; are they native or even spontaneous at Rutherglen?

"Botanical Habitats," p. 184, is a selection of localities taken from a popular description of the plants of Lanarkshire, etc., by the Rev. W. Patrick, published in 1831.

The author of this paper asks if the editor of the MS.

magazine, or any of the readers thereof, can help him to some information about the 'Flora Glottiana', which he believes "is occasionally seen here." He is hereby respectfully informed that the 'Flora Glottiana' was composed by Thos. Hopkirk, and published in 1813. Has the querist read the rev. botanist's popular description of the botany of Lanark, and failed to find therein any mention of this Glasgow list of plants? Has he hunted the bookstalls as eagerly as it is to be hoped he will scrutinize and localize the now existent plants which have already been observed by his two predecessors?

The following are not in Hopkirk's list, viz.:—

Cornus sanguinea.
Ribes alpinum.
Polemonium cœruleum.
Petroselinum sativum.
Allium Schœnoprasum.
Ornithogalum umbellatum.
Rumex pulcher.
Vaccinium Vitis-Idæa.
Pyrola minor.
Arenaria verna.
Aconitum Napellus.
Scrophularia vernalis.
Lepidium campestre.
Lepidium hirsutum.
Geranium columbinum.
Gnaphalium sylvaticum.
Listera cordata.
Listera Nidus-Avis.
Carex ovalis.

The following species are in 'Flora Glottiana,' but not in the MS. list selected from the 'Flora of Lanarkshire,' and entered in the MS. magazine, p. 184.

Campanula Trachelium.
Viola palustris.
Verbascum Lychnitis.
Hyoscyamus niger.
Atropa Belladonna.
Ribes Grossularia.
Chenopodium murale.
Œnanthe pimpinelloides.
Scandix odorata.
Viburnum Opulus.
Parnassia palustris.
Rumex sanguineus.
Vaccinium Oxycoccos.
Daphne Laureola.
Polygonum Bistorta.
Adoxa moschatellina.
Pyrola media.
Chrysosplenium alternifolium.
Saxifraga stellaris.
Saxifraga umbrosa.
Silene maritima.
Stellaria nemorum.
Stellaria glauca.
Sedum villosum.
Ranunculus arvensis.
Bartsia viscosa.
Linaria minor.
Orobus sylvaticus.
Tragopogon porrifolius.
Hieracium prenanthoides.
Carduus heterophyllus.

It is however more than probable that there are few discrepancies between the 'Flora Glottiana' of 1813 and the 'Flora of Lanarkshire' of 1831. Some of the species in the latter list, though usually entered among the "rariores," are not rare in that district; and again, Mr. Hopkirk's district may be of smaller extent than that comprehended in Mr. Patrick's flora.

"The Botany of Loch Ranza," in Arran, need not detain the reader. The "rariores" are *Osmunda regalis, Asplenium marinum, Valerianella dentata, Lepidium latifolium. Salicornia herbacea,* *Lamium amplexicaule,* and *L. purpureum,* are not rare anywhere between the four British seas.

Let not the above remark be construed in a sense contrary to the writer's intention. In a small island, every plant is interesting to those who take an interest in plants and their distribution, whether the species be frequent or rare on the adjoining continent.

If there be a single sentence or word, in what has been above stated, depreciatory of these essays, or of their multifarious and interesting contents, such is quite unintentional, and the author apologizes for it accordingly.

There are several reasons why the notice of our readers is called to this unique periodical. First, it is a work on natural history, and a considerable part of its contents are as a matter of course interesting to all genuine *phytologers* (botanists). In the second place, it is evidently the production of true, energetic, though young amateurs of natural science. A catholic spirit, an unmistakable sympathy with the beautiful and the good, is manifest in every page. There is a striking absence of egoism (selfishness), toadyism (too much deference to the mere accidents of wealth, title, reputation, etc), and cliqueism (blindly following a leader). We are not able to praise in sufficiently appropriate and appreciative terms the fresh, manly, healthy, moral tone which uniformly pervades these pages. Our third reason for bringing them thus prominently before the public, is to encourage the authors to persevere in their efforts to acquire and disseminate knowledge. This is a gratifying duty, and it is done both for the sake of encouraging the writers themselves who are thus enlarging the sphere of their future usefulness, while they are contributing to the onward progress of society. Our fourth and last reason for this notice is, that our readers may be urged to imitate so good an example,—to associate, if only in parties of two or three, and to communicate to each other their respective discoveries.

One of the greatest obstacles to progress is sectarianism, which is as obstructive in science as it is in religion. Associations of unprejudiced, unfettered, independent men, among whom there is none to take the lead, and where no one is afraid of another, but where all are equally observant of nature, all lovers of the truth and fearless in expressing their opinions, their experiences, and the results of their observation, may be in time a remedy for the evils of scientific coteries, which lie like a nightmare on science, pressing her "as a cart loaded with sheaves."

It is only among the young, the strong, and the resolute that any profitable resistance to the influence of patronage and prestige can be offered. One young man is powerless, and unless backed by a patron is despised; but a band of bold youths is quite another matter. They can make their way upwards to reputation, and need not submit to the degradation of retailing secondhand information and science, when they can go to the source, the fountain-head, and imbibe and observe for themselves and deliver the results of their labours with both originality and confidence.

If the young men of Glasgow will take the counsel of an old man, who has observed that the intelligence and wisdom of the wise and scientific are generally estimated by the weight of their purses, they will cling to each other as they would to their bosom friend (their wife or *chère amie*); they will never despise help, from whatever quarter it may be offered; but, to succeed, they should value truth above all things, and deem independence, sturdy self-reliance, as their sheet anchor.

They will not want helpers when they show that they can help themselves. Their manuscript magazine is a very fair beginning; and they will not be offended when told in a friendly spirit, that there is a beginning, a middle, and an end in all activities, whether epic, scientific, moral, or spiritual. The end is perfection, and the middle is the connecting medium, composed of repeated continuous efforts to reach the end. They should not be seduced from this grand object, either by the sneers of the great and eminent, or by the more insinuating and dangerous attractions of seductive indolence. In the spirit of kindness they should honestly and rigorously criticize their respective productions. Young men can bear criticism; they are never so touchy, thinskinned, nor sensitive under correction as the aged. The better and the more efficiently they can perform this friendliest of all friendly duties to each other, the more patient they will be when reminded of their own shortcomings. Blessed are they who can bear correction might be added to the beatitudes, if piety and reverence of the sacred oracles did not warn us not to take this liberty. Finally, it is a truism, and consequently a universally-received maxim, "that unity is strength," and it is equally true that selfishness, conceit, prejudice, and pride effectually hinder the hearty co-operation of those who are engaged in kindred pursuits. Personal emulation is productive only of useless bickerings, strife, and animosities. From such evil dispositions all should manfully strive to be delivered.

A Manual of British and Foreign Plants, with their Latin and English Names. By LEO H. GRINDON, Lecturer on Botany, Author of the 'Manchester Flora,' 'Manchester Walks and Wild Flowers,' etc. etc. London: William Pamplin, 45, Frith Street, Soho Square.

The main object of this systematically-arranged book, as the author concisely states in his preface, "is to provide persons with the means of readily learning the Latin name of a plant when the English one is known, or *vice versâ*."

The names of the orders, genera, and species are printed in massive bold characters, and most of them are marked, to help the uninitiated to give each term its correct pronunciation.

A general index of all the English and scientific names concludes the work, which will be a handy companion to the field botanist, to the visitor of flower-shows, also to those who visit botanical collections and other assemblages of native and foreign plants. Its typography is very creditable to the provincial press, and its bibliopegistic finishings, or fittings, or appointments are good specimens of the taste of country publishers.

BOTANICAL NOTES, NOTICES, AND QUERIES.

CLAYTONIA ALSINOIDES.

I have just had put into my hands, by one of our members, specimens of *Claytonia alsinoides* from the island of Bute. I am informed by another of our members that he has gathered it at Gourock, whilst the first working botanist of our "guid town" gives Cadder, towards the north of Glasgow, as a third locality. Nevertheless here we are not ambitious to have the plant recorded as British, for we look upon it as an alien; but at the same time it would be better to admit it to the honours of the Flora with an asterisk appended, to mark it as an interloper. I confess it does look strange to find naturalists recording as British, seaweeds and other objects, vegetable and animal, that are rare visitants here, and yet persistently brand and shut out our foreign relations when they come across to see us and take up their abode at our doors. Widely different is the spirit of Asa Gray, in his

'Manual of United States Botany;' see how many he has admitted that are natives of the Old World, and followed our forefathers across the Atlantic.

LIST OF EARLY-FLOWERING PLANTS OBSERVED IN FLOWER NEAR PLYMOUTH, WITH THE DATE OF THEIR FIRST APPEARANCE.

Primula vulgaris	(1861) Dec.	23
Ranunculus Ficaria	(1862) Jan.	11
Potentilla Fragariastrum	„	16
Capsella Bursa-pastoris	„	16
Galanthus nivalis	„	20
Draba verna	„	28
Cochlearia danica	„	31
Tussilago Farfara	„	31
Chrysosplenium oppositifolium	Feb.	5
Mercurialis perennis	„	7
Narcissus Pseudo-narcissus	„	7
Linaria Cymbalaria	„	10
Caltha palustris	March	1
Sisymbrium thalianum, *Hook.*	„	1
Viola sylvatica, *Fries*	„	1
Fragaria vesca	„	1
Adoxa moschatellina	„	1
Nepeta Glechoma, *Benth.*	„	1
Fedia olitoria, *Vahl.*	„	11
Myosotis arvensis	„	11
Sinapis arvensis	„	15
Oxalis Acetosella	„	15
Prunus spinosa	„	15
Saxifraga tridactylites	„	15
Luzula campestris	„	15
Veronica serpyllifolia	„	17
Pulmonaria angustifolia	„	18
Lychnis diurna, *Sibth.*	„	22
Smyrnium Olusatrum	„	22
Stellaria Holostea	„	24
Geranium lucidum	„	24
Alchemilla arvensis	„	24
Fumaria officinalis	„	29
Barbarea præcox	„	29
Cardamine pratensis	„	29
Mœhringia trinervia, *Clairv.*	„	29
Stachys arvensis	„	29
Anthriscus sylvestris	„	31
Sherardia arvensis	„	31
Anchusa sempervirens	„	31
Veronica Chamædrys	„	31
Ranunculus bulbosus	April	4
Alliaria officinalis, *DC.*	„	4
Plantago lanceolata	„	4
Ranunculus repens	„	8
Violia tricolor	„	8
Mœhringia muscosa	„	8
Geranium Robertianum	„	8
Cytisus scoparius	„	8
Vicia sepium	„	8
Prunus Avium	April	8
Vaccinum Myrtillus	„	8
Euphorbia Helioscopia	„	8
Euphorbia amygdaloides	„	8
Orchis mascula	„	8
Agraphis nutans, *Link*	„	8
Arum maculatum	„	8
Ranunculus parviflorus	„	12
Acer Pseudo-Platanus	„	12
Lathyrus macrorrhizus, *Wimm.*	„	12
Ajuga reptans	„	19
Sisymbrium officinale	„	21
Pyrus Malus	„	21
Veronica montana	„	21
Viola palustris	„	23
Polygala vulgaris	„	23
Geranium molle	„	23
Medicago maculata	„	23
Potentilla Tormentilla, *Nesl.*	„	23
Luzula sylvatica	„	23
Narcissus biflorus	„	25
Geranium rotundifolium	„	26
Poterium Sanguisorba	„	26
Linaria supina, *Desf.*	„	26
Barbarea vulgaris	„	28
Lepidium Smithii	„	28
Geranium dissectum	„	28
Trifolium minus, *Relh.*	„	28
Torilis nodosa	„	28
Myosotis versicolor	„	28
Potentilla anserina	„	29
Bunium flexuosum	„	29
Viburnum Lantana	„	29
Lithospermum officinale	„	29
Lysimachia nemorum	„	29
Medicago lupulina	May	1
Cratægus Oxyacantha	„	1
Stellaria uliginosa	„	3
Geranium pyrenaicum	„	3
Geranium columbinum	„	3
Heracleum Sphondylium	„	3
Galeobdolon luteum, *Huds.*	„	3
Anagallis arvensis	„	3
Lepidium campestre	„	6
Potentilla reptans	„	6
Trifolium pratense	„	6
Veronica Beccabunga	„	6
Polygonatum multiflorum	„	6
Geum urbanum	„	7

RICHARD BRIGGS.

CLAYTONIA PERFOLIATA.

I found, a few days since, large quantities of the *Claytonia perfoliata* growing in a lane at Gorleston, near Yarmouth. I think the locality ought to be marked, as it is now six years since I first found it there, and it has increased to such an extent, that the banks on both sides of the lane, for nearly half a mile, are covered with large patches of it. I shall be happy to send you some fresh specimens of it per post, should you like any.

HAMPDEN G. GLASSPOOLE.

DENTARIA BULBIFERA. NEW STATION IN SUSSEX.

I have much pleasure in recording what I believe to be a new locality for this plant. It grows abundantly in small copses in the parishes of Warnham and Rusper (Sussex), near Horsham, where I gathered specimens on April 25th, at which date only one or two specimens were in flower. It appears to like copses recently cleared of underwood, and I have little doubt that it is abundant in the neighbourhood. I am not sure whether some of the copses where I saw it were not in Surrey (parish of Capel). I hope soon to get specimens, and in an advanced state.

In the same locality I have noticed a few other good plants, such as, *Helleborus viridis*, *Vinca minor*, *Daphne Laureola*, *Galium tricorne*, *Bupleurum rotundifolium*, *Hypericum Androsæmum*, *Myosotis sylvatica*, *Habenaria chlorantha*, *Chenopodium polyspermum*, *Ophioglossum vulgatum*.

The soil is the weald clay, and all the land is cultivated except a few small woods.

HENRY TRIMEN.

ALLIUM AMBIGUUM, OR A. TRIQUETRUM, IN IRELAND.

A series of Irish Ferns were some years ago sent me from the neighbourhood of Fermoy, and among them a number of *Polypods*, which were planted in several parts of my fernery, and in two places the *Allium* grew up close to the Hibernian species of Polypodium. As it did not appear prior to the planting of the Irish ferns, and grew in juxtaposition to two of them, I infer that either the bulbs or the seeds reached Enfield in the mould about the roots of the Polypody.

I remember that my son, who sent the Ferns, said that there were many wild flowers in that locality which he did not recognize, and possibly the plant in question was one of the number. The locality is by a stream of water, near Fermoy.

M. A. WALKER.

Chase Cottage, Enfield, May 26th, 1862.

Communications have been received from

Walter Galt; Hampden G. Glasspoole; W. Pamplin; M. A. Walker; Mrs. E. Walker; John Sim; H. C.; C. J. Ashfield; H. Beisly; H. Trimen; G. B. Wollaston; Dr. Prior; R. C. A. P.; Mrs. Merrifield; W. Ashley; W. P.; E. B. Penfold; S. Beisly; E. B. P.; The Right Hon. the Earl of Ilchester; Berthold Seemann, Ph.D., etc.; W. Winter.

RECEIVED FOR REVIEW.

Chardons Nanciens, ou Prodrome d'un Catalogue des Plantes de la Lorraine, par le Docteur Hussenot.
MS. Magazine of the Glasgow Naturalists' Society, Vol. II.
Preston Chronicle, May 28th.
Notes on Books.
Canadian Naturalist and Geologist.

31 MH63

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A

BOTANICAL TOUR

IN THE

HIGHLANDS OF PERTHSHIRE.

BY W. P. AND A. I.

[*Reprinted from 'The Phytologist.'*]

> "The rugged mountain's scanty cloak
> Was dwarfish shrubs of Birch and Oak,
> With shingles bare and cliffs between,
> And patches bright of Bracken green;
> And Heather black, that waved so high,
> It held the copse in rivalry."—*Scott.*
>
> "Sweet smells the Birk, green grows the grass,
> Yellow on Yarrow's banks the Gowan;
> Fair hangs the Apple frae the rock,
> Sweet the wave o' Yarrow flowan."—*Old Ballad.*
>
> "Oh, green, said I, are Yarrow's Holms,
> And sweet is Yarrow flowing;
> Fair hangs the Apple frae the rock,
> But we will leave it growing."—*Wordsworth.*

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'THE FERNS OF GREAT BRITAIN AND IRELAND, NATURE PRINTED,' ETC.;
CURATOR OF THE CHELSEA BOTANIC GARDEN.

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